

## STATE-WIDE CEREAL VARIETY TESTING PROGRAM TRIALS

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### INTRODUCTION

This article reports results from cereal variety trials conducted across Oregon in 1995. Data specific to the Columbia Basin are included in tables and discussed in the text. These trials were conducted as part of a testing program initiated in 1992 to provide growers with local data on cereal variety performance. This program is coordinated by Russ Karow, OSU Extension cereals specialist, and Helle Ruddenklau, OSU Department of Crop and Soil Science research assistant. Seed is packaged in Corvallis and distributed to trial coordinators across the state. Coordinators plant, manage, and harvest trials, in some instances in cooperation with growers. Information on trial locations, coordinators, and grower cooperators is given in Table 1. Russ Karow's research team processes harvested grain, analyzes results, and provides summary data to extension agents, seed dealers, field men, and growers across the state and region.

Winter and spring barleys, triticales and wheats of several market classes were tested at the 12 sites in the testing network. Grain yield, test weight, protein, and lodging were determined for all varieties at all sites. Heading date, height, disease reactions, and other quality factors were determined as time, labor, and equipment allowed.

### MATERIALS AND METHODS

Dryland plots (5 x 17 feet) at Heppner, Pendleton, and Moro were seeded at 20 seeds per square foot. Irrigated plots at LaGrande (5 x 17 feet), Hermiston (5 x 20 feet), and all other locations were seeded at 30 seeds per square foot. Seeding rates for dryland plots ranged from 46 to 112 pounds per acre, depending on variety, to attain the desired 20 seeds per square foot seeding rate. Irrigated plot seeding rates ranged from 69 to 168 pounds per acre. All trials were laid out as randomized complete block designs with three replications. Plots were seeded using small plot drills. Seeding, harvest, and production practices were typical for each location. Harvested grain was cleaned with a Pelz rub-bar cleaner. Plot yield, test weight, protein, and moisture were all determined on cleaned grain samples. Cleaned barley samples had few awns, hence test weights were atypically high, but variety to variety comparisons are valid. Yields are reported on a 10 percent moisture basis, and in 60 pound bushels for wheats and triticales, and in pounds per acre for barleys. Proteins are reported on a 12 percent moisture basis and were determined using a Tecator Infratec 1225 Whole Grain Analyzer purchased for OSU by the Oregon Wheat Commission.

In addition to small-plot variety tests, large-scale winter wheat drill strip trials have been conducted across the state the last three years. Cooperating growers were provided with 50 to 80 pounds of seed of each variety to be tested. Seed for 1995 trials was donated by Eric and Marnie Anderson, Pendleton Grain Growers, and Madsen Grain. Cooperators, often with assistance of local county agents, established single-replicate drill strip plots on their farms. These drill strips were managed and

harvested by the cooperating grower with standard field equipment. Weigh wagons or weigh pads were used to obtain yield data. Two-quart grain samples were saved from some plots and used for test weight and protein analyses. Table 2 lists sites, grower cooperators, and background information about 1995 winter wheat drill strip test plots.

## RESULTS AND DISCUSSION

Both winter and spring trials were planted at Hermiston, but an early July hail storm destroyed all trials. Winter grain data for other sites are presented in Tables 3-8. Data for spring grains are presented in Tables 9-15. Data from winter wheat drill strip plots are presented in Table 16. While over-site averages are provided for all data types, you will also find values labeled "percent of average" associated with most yield data. Percent of average data are generated by dividing a variety's yield by the trial average yield. A variety with a calculated value greater than one has performed better than average, while a variety with a value less than one is below average. Calculating yield performance in this manner allows easy variety comparison across diverse environments and over years. Multi-year, percent of average yield data are presented in Tables 5-6 for winter grains and 12-13 for spring grains.

### **Winter Wheats and Triticales.**

Over the three year period 1993-95 across eight environments, Stephens, Malcolm, and Gene exhibited the highest yield levels (Table 5). Note however that differences among varieties are not statistically different at the 5 or 10 percent probability level. The yield range for the 12 winter wheats and triticales shown in Table 5 is only 12 percent or roughly 11 bushels per acre. A

similar trend is seen in the two-year averages shown in Table 6, and in the 1995 data shown in Table 4. There is a less than 10 percent yield spread among commonly grown and recently released varieties. Given that the yield potential of these varieties appears to be similar, variety selection can be based on other criteria such as disease resistance, lodging potential, plant maturity, etc.

Average test weight was near or above 60 pounds per bushel at all sites but Madras and Morrow (Table 7). All grain trials at Madras, winter and spring, were flattened by a thunderstorm at the soft dough stage and lodging was severe. Lodging led to shrunken grain and low test weights. Lodging was not observed at Morrow, but disease stress resulted in shrunken grain. As expected, the hard red winter wheat Hoff had highest test weights across sites while Parma and Whitman triticales shared low test weight honors. Celia triticale has had test weights nearly equivalent to wheat in years past, but had significantly lower test weights at some sites in 1995.

Protein levels were low at several sites (less than 9 percent; Table 8) indicating that plots may have been under-fertilized. Given higher-than-normal precipitation levels during the cropping season and resultant high yields, under-fertilization and low protein levels were not unexpected. Lodging resulted in high protein levels at Madras. The LaGrande site has consistently had high protein levels in all years of testing.

Drill strip test data are presented in Table 16. Six varieties were included in the 1995 standard set; Gene, MacVicar, Madsen, Rod, Rohde and Stephens. As in 1994, Rod had the highest yield averaged

across sites and was also the highest yielding variety in 9 of the 16 tests. Rod has shown only average performance in the past two year's small-plot tests. Rohde club wheat has shown excellent yield potential across environments, even under high rainfall and irrigated conditions.

**Winter Barleys.** Winter barley data are given in the bottom sections of Tables 3-8. Of the released varieties, Kold stands out in both yield and agronomic performance. This is heartening as Kold is the only winter barley currently available in the Pacific Northwest that has resistance to barley stripe rust. Hundred has also yielded well over years (Tables 5-6), but test weights have been low (Table 7). Steptoe, Hesk, and Scio, traditionally grown winter barleys, show average performance.

**Spring Wheats and Triticales.** Spring grain data are presented in Tables 9-15. Alpowa (a new soft white wheat released by Washington State University), ID377S (the hard white released to the Idaho Wheat Commission by University of Idaho breeder Ed Sonza), and Treasure were the highest yielding varieties across sites in 1995 (Table 11), and over years (Table 13). Centennial has also shown consistent, above average performance, but growers have reported that this variety is hard to thresh and can have high dockage levels. Seed supplies for Alpowa are limited at this time but will expand over the next two years. ID377S is being grown under contract with the Idaho Wheat Commission. Four hundred acres of ID377S are slated to be grown in Oregon in 1996. Acreage may expand slowly in subsequent years if crop quality can be maintained and marketing efforts are successful. Treasure has not been grown extensively in Oregon, but trial data suggest that experimentation with this

variety is warranted. Wawawai is a Wakanz replacement. Both have Hessian fly resistance. While Wawawai has exhibited erratic yields over sites, performance in the Pendleton area has been good. This variety should be considered for use where Hessian fly has been a problem in recent years.

**Spring Barleys.** Spring barley data are presented in the bottom sections of Tables 9-15. As has been the case for the past two years, Baronesse two row feed barley exhibited exceptional yield across environments and years (Tables 11-13). Test weights also continue to be a strength of Baronesse. Several lines tested in 1995 may be of future interest. BSR45 is a barley stripe rust resistant line that has been tentatively named "Icaro." Icaro was developed by Dr. Pat Hayes, OSU barley breeder, in cooperation with co-workers at ICARDA - the International Center for Agricultural Research in Dry Areas. Icaro has been approved for initial breeders seed increase. Agronomic performance was near average at four locations in 1995. If barley stripe rust becomes a serious problem in Oregon, Icaro may serve as a short-term solution. WPB-BZ4899-74 is a hulless, waxy barley developed by Western Plant Breeders. It was included in trials simply to get a better idea of hulless barley performance across environments. Percent of average yield across the 10 test environments was 93 percent; better than expected.

## CONCLUSIONS

Data for 1995 once again show that there are few statistical differences among winter or spring grain varieties. Whether tested in small or large plots, newer varieties show a similar yield potential. It appears that factors such as available moisture,

disease, and insect stress are capping yields in each environment, not the genetic yield potential of varieties per se. Our data suggest that growers should carefully assess those environmental factors that limit yield in each of their fields and grow newer varieties with tolerance or resistance to those stresses. The yield potential is there; we need to allow for expression.

#### **FOR MORE INFORMATION**

Use more than one year's data to make variety selection decisions. For more information, contact your local OSU Extension Service office and ask for a copy of Special Report 755, "Winter Cereal Varieties for 1996," or Crop Science Report 105, "Spring Grain Varieties for 1996." These publications contain current year and historic variety performance data for wheats, barleys, triticales, oats, and even cereal rye. Your county agent may have other data as well.

The state-wide variety testing program is a grower-driven program. If you have ideas about varieties to be included in your area or have suggestions for program improvement, contact Russ Karow OSU Extension cereals specialist (503-737-5857).

#### **ACKNOWLEDGMENTS**

We thank Charlie Anderson, John Cuthbert, Norm Goetze, and Mike and Sandy Moritz for their donations of land, time, and effort to the state-wide variety testing program. Without their contribution of resources this program would not be possible. Cash funding for the state-wide variety testing program is provided by the OSU Agricultural Experiment Station, Oregon Wheat Commission, and Oregon Grains Commission. Project coordinator salary and clerical support dollars are provided by the OSU Extension Service. Without the support of these organizations, this program would not be possible.

Table 1.—1995 state-wide cereal variety testing program locations, site coordinators and grower cooperators.

Trial name	Trial type	Trial location	Trial coordinator	Grower cooperator
Corvallis	all grains - dryland	Hyslop Farm	Russ Karow, Helle Ruddenklau	
Morrow Co. (Heppner)	all grains - dryland	Anderson Farm	Mike Moore	Charlie Anderson
Hermiston	all grains – irrigated	Hermiston Expt. Station	Mike Moore	
Klamath Falls	all grains – irrigated	Klamath Expt. Station	Randy Dovel	
LaGrande	all grains – irrigated	Cuthbert Farm	Mike Moore	John Cuthbert
Madras	all grains – irrigated	Central OR Expt. Station	Steve James, Mylen Bohle	
Medford	all grains - dryland	Southern OR Expt. Station	Rich Roseberg	
Moro	all grains - dryland	Sherman Expt. Station	Mike Moore	
North Valley (Cornelius)	winter grains - dryland	Goetze Farm	Russ Karow, Helle Ruddenklau	Norm Goetze
North Valley (Sheridan)	spring grains - dryland	Moritz Farm	Russ Karow, Helle Ruddenklau	Sandy & Mike Moritz
Ontario	all grains – irrigated	Malheur Expt. Station	Mike Barnum, Clint Shock	
Pendleton	all grains - dryland	Pendleton Expt. Station	Mike Moore	

72

Table 2.—Growers, locations, and cooperating county agents for 1995 winter wheat drill strip test plots in Oregon and Washington.

Grower	City	County	Irrigation	County Agent
Bob Johns	Athena	Umatilla	No	Mike Stoltz
Bob Barnes	Salem	Marion	No	Gale Gingrich
Bruce and Helle Ruddenklau	Amity	Yamhill	No	Susan Aldrich-Markham
Alan Klages	Joseph	Wallowa	Yes	Gordon Cook
Mark Hale	Pendleton	Umatilla	No	Mike Stoltz
Dennis Glaser	Tangent	Linn	No	Mark Mellbye
Bill Miller	Dufur	Wasco	No	Sandy Macnab
Bob Newston	Pendleton	Umatilla	No	Mike Stoltz
Dean Nichols	Dayton, WA	Columbia, WA	No	Roland Sherman
Sandy Macnab/Erling Jacobsen	Moro Expt. Station	Sherman	No	Sandy Macnab
John Rietmann	Ione	Morrow	No	Phil Nesse
Mike Weimer	Arlington	Gilliam	No	Phil Nesse
Russ Erickson	Condon	Gilliam	No	Phil Nesse
Gary Brown	Wasco	Sherman	No	Sandy Macnab
Olin Reser	Condon	Gilliam	No	Phil Nesse
Lyle Peck	Heppner	Morrow	No	Phil Nesse

Table 3.—1995 state-wide variety testing program winter grain Julian heading dates, heights and lodging across locations in Oregon.

Variety/ line	Market class	Corvallis			North						Madras	Ontario	
		Corvallis	Madras	Ontario	Corvallis	Madras	Moro	Morrow	Valley	Ontario	Pendleton		
<i>Winter wheats and triticales</i>													
Julian heading date					Plant height (inches)								
Cashup	SW	147	162		39	40	28	30	39		39	100	--
Celia	Triticale	144	158	144	43	44	33	35	41	37	42	63	--
Daws	SW	145	160	144	41	40	30	29	42	36	39	98	--
Gene	SW	132	155	142	37	33	25	28	33	33	33	100	--
Hill 81	SW	148	161	146	43	42	26	34	44	37	44	93	--
Hoff	HR	140	154	142	44	38	28	34	44	36	40	98	--
Hyak	Club	138	159		45	40	27	32	44		44	98	--
Kmor	SW	148	163		41	40	26	27	39		40	100	--
Lambert	SW	142	157		45	42	29	38	43		42	67	--
Lewjain	SW	150	165		39	40	26	29	39		37	100	--
Mac 1	SW	145	156	144	45	42	30	37	45	41		100	--
MacVicar	SW	144	158	143	41	39	30	32	38	37	39	65	--
Madsen	SW	144	162	146	42	39	30	34	39	33	40	77	--
Malcolm	SW	144	156	143	44	40	29	31	41	38	38	83	--
Parma	Triticale	147	163	144	45	47	35	44	49	42	48	100	--
Rely	Club	149	160		43	44	29	33	40		37	97	--
Rod	SW	147	162		40	42	29	30	39			100	--
Rohde	Club	145	160	146	43	41	25	31	45	34		99	--
Rulo	Club	149	162		42	43	26	34	42		41	98	--
Stephens	SW	142	156	142	41	39	28	34	40	35	40	99	--
W301	SW	143	154	144	43	39	29	33	37	37	41	100	--
Whitman	Triticale	129	151	139	53	52	39	47	54	44	52	100	--
Yamhill	SW	144	163		47	42	27	39	47			98	--
Trial average		143	159	144	42	41	21	34	41	36	41	93	--
PLSD (5%)		1	3	1	4	4	--	--	3	2	--	NS	--
PLSD (10%)		1	2	1	3	3	--	--	3	2	--	NS	--
CV		1	1	1	5	6	--	--	5	3	--	26	--
<i>Winter barleys</i>													
AB-812	6RF			137						35		3.3	
Gwen	6RF	126	141		39	41	--	--	46		42	22	
Hesk	6RF	143	150	142	33	42	--	--	42	34	39	73	1.7
Hoody	6R hooded	141	152		39	46	--	--	50		39	72	
Hundred	6RF	141	150	142	34	38	--	--	40	36	42	43	4.7
Kamiak	6RF	124	141		42	39	--	--	52		52	77	
Kold	6RF	140	150	142	31	39	--	--	40	35	37	68	1.7
ORW6	6RF/M	130	146	137	34	39	--	--	42	33	39	72	3.7
ORW7	6RF/M	141	151	141	35	43	--	--	41	39	43	28	2.0
Scio	6RF	136	150		35	40	--	--	43		41	72	
Showin	6RF	137	150	140	31	31	--	--	30	29	32	73	5.0
Steptoe	6RF	135	150	138	42	45	--	--	52	35	46	88	4.3
SDM204	6RF			154			36	--				70	
SDM208	6RF			150	139		39	--	--	34		82	1.0
Trial average		136	149	140	36	40	--	--	44	34	41	65	3.2
PLSD (5%)		3	2	1	5	5	--	--	3	3	--	NS	2.1
PLSD (10%)		3	2	1	4	4	--	--	4	2	--	NS	1.7
CV		1	1	1	8	7	--	--	7	5	--	43	39

Grain did not lodge at other locations.

\*Lodging score: 1=none, 2=1-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=&gt;80%

Table 4.—1995 state-wide variety testing program winter grain yield data across nine locations in Oregon.

Variety/ line	Market class	Corvallis	LaGrande	Madras	Medford	Moro	Morrow	North Valley	Ontario	Pendleton	8 site average*	8 site percent of average*
<i>Winter wheats and triticales</i>												
Cashup	SW	84	92	100	113	42	45	107		101	85	1.02
Celia	Triticale	76	83	99	96	54	40	105	133	108	83	1.00
Daws	SW	75	102	114	112	56	46	118	140	81	88	1.06
Gene	SW	109	96	89	114	56	50	105	143	93	89	1.09
Hill 81	SW	74	91	113	101	49	41	115	135	87	84	1.00
Hoff	HR	65	91	118	120	51	47	97	137	61	81	0.97
Hyak	Club	71	80	73	117	52	36	119		82	79	0.94
Knor	SW	85	76	84	105	53	38	108		80	79	0.95
Lambert	SW	69	90	107	124	53	47	99		82	84	1.01
Lewjain	SW	74	64	93	109	49	33	107		84	77	0.91
Mac 1	SW	88	87	100	131	55	41	105	149	51	82	0.98
MacVicar	SW	81	79	104	124	49	34	96	150	85	81	0.96
Madsen	SW	86	75	98	105	53	56	103	137	94	84	1.03
Malcolm	SW	90	105	113	129	57	53	117	150	80	93	1.12
Parma	Triticale	62	87	89	106	55	49	92	127	100	80	0.98
Rely	Club	56	85	93	123	56	41	84		74	76	0.92
Rod	SW	79	88	115	115	58	48	99		76	85	1.03
Rohde	Club	70	84	105	133	54	47	123	131	70	86	1.02
Rulo	Club	56	82	100	127	51	42	102		72	79	0.94
Stephens	SW	88	77	105	106	56	47	102	128	96	85	1.03
W301	SW	84	89	97	97	55	49	76	146	88	79	0.98
Whitman	Triticale	62	96	100	107	51	37	108	118	79	80	0.95
Yamhill	SW	79	68	74	90	53	44	113		63	73	0.89
Trial average		78	85	103	114	52	44	105	142	84	82	82
PLSD (5%)		13	NS	21	19	8	9	NS	19	15	NS	0.12
PLSD (10%)		11	17	18	16	6	7	NS	16	13	14	0.10
CV		11	15	13	12	8	13	18	8	11	12	12
<i>Winter barleys</i>												
AB-812	6RF								8669			
Gwen	6RF	2845	4182	2889	3994	--	3373	4290		3463	3577	0.89
Hesk	6RF	2608	5616	4078	3347	--	3174	5344	8001	3338	3929	0.96
Hoody	6R hooded	1778	2162	3040	2194	--	1247	3575		1400	2199	0.54
Hundred	6RF	3109	4862	3860	4678	--	3017	4956	7669	4448	4133	1.01
Kamiak	6RF	2814	4045	4077	4961	--	3622	4271		2655	3778	0.93
Kold	6RF	3106	5204	4215	5497	--	3470	5998	6637	5416	4701	1.15
ORW6	6RF/M	3966	5187	4984	5407	--	3868	5928	8535	5331	4953	1.23
ORW7	6RF/M	3819	5959	1945	4920	--	4082	4896	5786	4187	4258	1.06
Scio	6RF	3188	3025	3650	5269	--	4226	5196		4531	4155	1.04
Showin	6RF	2907	5433	5258	3105	--	3264	4516	6455	4457	4134	1.02
Steptoe	6RF	3743	5659	3932	3239	--	3132	5404	7454	4104	4173	1.02
SDM204	6RF			6257								
SDM208	6RF			4692		--			8255			
Trial average		3080	4667	4067	4408	--	3316	4943	7489	3939	4060	4060
PLSD (5%)		608	1100	1534	1237	--	735	1062	1240	1053	752	0.18
PLSD (10%)		503	910	1272	1030	--	608	878	1023	871	629	0.15
CV		12	14	22	20	--	13	13	10	16	18	17

\* does not include Ontario

Table 5.—1993-95 winter grain yields across Oregon locations expressed as a percent of trial average.

Variety/line	Market class	Corvallis	LaGrande	Madras	Medford	Moro	Morrow county	North Valley	Ontario	Pendleton	8-site average
<i>Winter wheats and triticales</i>											
Yield as a percent of trial average											
Celia	Triticale	1.00	0.99	1.01	--	1.08	1.10	0.91	0.99	1.20	1.04
Daws	SW	0.94	1.08	0.97	--	0.99	0.99	1.04	0.96	0.92	0.99
Gene	SW	1.19	0.95	0.96	--	1.07	1.14	0.99	0.96	1.10	1.05
Hoff	HR	0.79	1.03	1.09	--	1.02	0.91	0.93	0.97	0.87	0.95
MacVicar	SW	1.07	0.93	1.06	--	0.99	0.95	0.99	1.11	1.04	1.02
Madsen	SW	1.09	1.02	0.99	--	0.98	1.07	0.94	1.01	1.06	1.02
Malcolm	SW	1.16	1.05	1.03	--	0.98	1.11	1.07	1.06	1.03	1.06
Rod	SW	0.98	1.14	1.04	--	1.13	1.11	1.02	0.69	0.96	1.01
Rohde	Club	0.84	0.96	0.98	--	1.14	0.97	1.07	0.97	1.01	0.99
Stephens	SW	1.05	1.00	1.03	--	1.07	1.19	1.00	1.01	1.17	1.07
W301	SW	1.03	0.93	1.04	--	1.05	1.15	0.96	1.08	1.10	1.04
Whitman	Triticale	1.08	1.09	0.97	--	1.08	0.95	1.02	0.91	1.14	1.03
PLSD (5%)											
PLSD (10%)											
1993-95 average yield (bu/a)		89	89	108	--	55	56	118	146	74	92
<i>Winter barleys</i>											
Yield as a percent of trial average											
5-site ave											
AB-812	6RF					--		--	1.10		
Gwen	6RF	0.95	0.90	0.97	0.91	--	0.90	--	0.90	0.92	
Hesk	6RF	0.92	1.12	1.03	0.98	--	1.11	--	1.07	1.05	1.04
Hundred	6RF	0.94	1.12	1.05	1.18	--	1.06	--	1.06	1.17	1.07
Kamiak	6RF	0.98	0.77	0.84		--	0.91	--		0.77	0.85
Kold	6RF	1.16	1.11	1.06	1.23	--	1.03	--	0.93	1.17	1.11
Showin	6RF	0.63	1.08	1.25		--	1.00	--	1.01	1.11	1.01
Steptoe	6RF	1.09	1.15	0.88		--	1.02	--	1.01	0.98	1.03
PLSD (5%)											
PLSD (10%)											
1993-95 average yield (lb/a)		4535	4298	4454	4066	--	3436	--	7552	4320	4209

Table 6.—1994-95 winter grain yields across Oregon locations expressed as a percent of trial average.

Variety/ line	Market class	Corvallis	LaGrande	Madras	Medford	Moro	Morrow County	North Valley	Ontario	Pendleton	8-site average
<i>Winter wheats and triticales</i>											
Cashup	SW	1.21	1.06	1.03	0.99	0.91	1.01	0.99		1.06	1.03
Celia	Triticale	1.09	0.99	1.00	0.80	1.18	1.02	0.97	0.99	1.26	1.04
Daws	SW	1.07	1.12	0.97	0.96	1.03	0.96	1.07	1.00	1.00	1.02
Gene	SW	1.22	1.06	0.91	1.09	1.07	1.17	1.03	1.00	1.12	1.08
Hill 81	SW	1.11	1.04	1.05	0.91	0.97	1.01	1.07	0.99	1.04	1.02
Hoff	HR	0.73	1.04	1.14	1.16	1.08	0.98	0.98	0.97	0.83	0.99
Hyak	Club	0.91	0.92	0.83	0.98	1.04	0.92	0.57		1.05	0.90
Kmore	SW	1.03	0.96	0.90	0.91	0.87	0.96	0.51		0.99	0.89
Lambert	SW	0.91		1.01	1.12	0.82	1.06	0.95		0.94	
Lewjain	SW	0.85	0.80	0.93	0.88	1.02	0.85	0.51		0.99	0.85
MacVicar	SW	1.06	0.97	1.04	1.04	0.96	0.96	0.98	1.11	1.05	1.01
Madsen	SW	1.16	1.00	0.93	0.95	1.00	1.17	0.89	0.99	1.07	1.02
Malcolm	SW	1.12	1.09	1.10	1.05	1.02	1.24	1.02	1.10	1.03	1.08
Rely	Club	0.76	0.95	0.91	0.99	1.04	0.89	0.40		0.93	0.86
Rod	SW	0.89	1.06	1.04	0.98	1.17	1.05	0.95		0.91	1.00
Rohde	Club	0.75	1.02	1.01	1.14	1.16	1.01	1.12	0.97	0.92	1.02
Stephens	SW	1.08	0.93	1.05	0.95	1.06	1.18	1.01	1.02	1.15	1.05
W301	SW	1.01	1.02	1.00	0.86	1.06	1.17	0.90	1.11	1.11	1.02
Whitman	Triticale	1.13	1.07	0.97	0.96	1.11	0.96	1.04	0.90	1.10	1.04
Yamhill	SW	0.87	0.91	0.83	0.91	0.86	1.00	0.99		0.76	0.89
PLSD (5%)											0.11
PLSD (10%)											0.09
1994-95 average yield (bu/a)		87	88	107	102	45	54	117	142	80	85
<i>Winter barleys</i>											
Yield as a percent of trial average											
AB-812	6RF					--		--	1.19		
Gwen	6RF	0.97	0.85	0.89	0.89	--	0.98	--		0.91	0.91
Hesk	6RF	0.87	1.18	1.05	1.03	--	1.10	--	1.09	1.08	1.05
Hoody	6RF	0.72	0.63	0.71	0.58	--	0.62	--		0.49	0.62
Hundred	6RF	1.01	1.10	1.10	1.24	--	1.07	--	1.08	1.20	1.12
Kamiak	6RF	0.93	0.80	0.80	0.93	--	0.86	--		0.67	0.83
Kold	6RF	1.10	1.10	1.05	1.28	--	1.07	--	0.92	1.23	1.14
Showin	6RF	0.94	1.15	1.29	0.90	--	1.03	--	0.99	1.15	1.08
Steptoe	6RF	1.16	1.17	0.92	0.65	--	0.93	--	0.98	0.99	0.97
PLSD (5%)											0.14
PLSD (10%)											0.12
1994-95 average yield (lb/a)		4556	4418	4036	4107	--	3658	--	7477	4436	4202
6-site average											

Table 7.—1995 state-wide variety testing program winter grain test weights across nine locations in Oregon.

Variety/ line	Market class	Corvallis	LaGrande	Madras	Medford	Moro	Morrow	North Valley	Ontario	Pendleton	8 site average*
<i>Winter wheats and triticales</i>											
Cashup	SW	61.0	61.3	57.4	60.9	62.1	58.7	59.6		61.6	60.3
Celia	Triticale	58.6	54.7	51.1	57.4	59.0	54.0	58.3	57.6	59.4	56.6
Daws	SW	60.7	62.4	58.6	61.0	60.8	58.8	62.2	62.8	61.4	60.7
Gene	SW	58.5	57.5	56.1	56.7	58.8	53.7	59.3	61.4	61.3	57.7
Hill 81	SW	59.7	62.3	59.0	61.7	61.3	57.8	61.6	61.5	61.3	60.6
Hoff	HR	62.4	64.0	60.0	63.0	63.3	59.8	63.7	63.9	64.7	62.6
Hyak	Club	57.0	60.3	55.5	58.3	59.5	55.5	60.5		60.8	58.4
Knor	SW	59.6	61.1	54.6	59.2	59.7	57.3	60.1		60.9	59.1
Lambert	SW	60.4	59.5	56.3	60.8	61.2	55.8	61.1		61.5	59.6
Lewjain	SW	59.2	62.6	55.3	61.3	61.3	58.2	61.4		61.3	60.1
Mac 1	SW	60.4	62.3	58.2	62.6	61.7	58.4	59.9	63.4	61.8	60.6
MacVicar	SW	61.0	60.1	58.3	61.7	61.0	57.4	61.0	62.1	61.9	60.3
Madsen	SW	59.6	61.1	59.5	59.9	60.9	58.9	61.7	61.3	61.6	60.4
Malcolm	SW	61.2	61.3	57.3	61.2	61.4	58.6	62.4	62.2	61.8	60.6
Parma	Triticale	53.9	53.0	50.7	54.0	55.1	50.3	52.1	56.6	56.7	53.2
Rely	Club	58.5	59.2	56.6	60.7	59.5	58.1	56.3		60.1	58.6
Rod	SW	60.0	59.6	57.0	60.0	59.2	58.1	60.0		60.7	59.3
Rohde	Club	61.3	64.4	58.7	62.6	62.1	60.1	63.1	61.3	61.7	61.7
Rulo	Club	57.8	60.1	54.9	60.1	59.8	56.4	59.0		60.4	58.6
Stephens	SW	60.5	60.6	57.9	60.6	60.5	58.1	60.7	60.9	62.1	60.1
W301	SW	61.4	60.2	58.6	60.6	61.1	57.0	58.3	61.4	62.4	60.0
Whitman	Triticale	54.7	54.4	51.8	56.3	54.4	49.8	56.5	56.1	56.9	54.3
Yamhill	SW	58.8	59.7	57.7	58.3	58.9	56.6	58.7		59.5	58.5
Trial average		59.6	60.2	56.6	60.1	60.0	56.7	60.2	60.9	61.0	59.3
PLSD (5%)		0.9	2.4	2.4	1.3	1.3	2.1	2.3	0.9	1.0	1.0
PLSD (10%)		0.8	2.0	2.0	0.9	0.9	1.8	1.9	0.7	0.8	0.8
CV		1	2.00	3	1	1	2	2	1	1	2
<i>Winter barleys</i>											
Test weight (lb/bu)											
AB-812	6RF								48.9		
Gwen	6RF	50.3	53.5	52.8	51.3	--	54.0	53.3		52.4	52.5
Hesk	6RF	45.7	51.8	50.1	45.7	--	48.8	51.3	48.8	50.0	49.1
Hoody	6R hooded	42.0	48.2	47.8	46.2	--	42.2	49.9		45.7	46.0
Hundred	6RF	45.1	49.3	49.9	47.8	--	43.8	50.0	48.0	50.0	48.0
Kamiak	6RF	49.0	53.2	49.9	50.9	--	54.0	51.9		52.3	51.6
Kold	6RF	46.0	52.0	52.4	50.3	--	50.8	52.2	50.5	51.5	50.7
ORW6	6RF/M	47.4	51.8	50.4	47.5	--	50.6	49.7	49.1	49.9	49.6
ORW7	6RF/M	48.8	48.7	50.6	50.6	--	54.5	52.3	50.5	53.1	51.2
Scio	6RF	47.1	50.9	50.9	48.6	--	49.9	50.8		50.5	49.8
Showin	6RF	45.3	51.6	52.0	43.2	--	48.3	48.8	48.6	47.8	48.2
Steptoe	6RF	49.0	54.6	50.4	49.4	--	50.8	53.0	50.1	50.9	51.2
SDM204	6RF			48.8		--					
SDM208	6RF			50.8		--			50.3		
Trial average		46.9	51.4	50.5	48.8	--	49.8	51.2	49.5	50.4	49.8
PLSD (5%)		1.3	1.6	2.0	1.7	--	2.5	2.1	0.6	0.8	1.7
PLSD (10%)		1.1	1.4	1.7	1.4	--	2.0	2.1	0.5	0.7	1.4
CV		2	2	2	2	--	3	3	1	1	1

\*does not include Ontario

Table 8.—1995 state-wide variety testing program winter grain protein percents across nine locations in Oregon.

Variety/ line	Market class	Corvallis	LaGrande	Madras	Medford	Moro	Morrow	North Valley	Ontario	Pendleton	8 site average*
<i>Winter wheats and triticales</i>											
								Protein percent (12% moisture basis)			
Cashup	SW	7.0	11.2	11.8	8.5	8.2	8.0	8.1		8.6	8.9
Celia	Triticale	6.8	12.0	12.0	9.6	7.7	7.7	8.0	10.2	7.5	8.9
Daws	SW	7.7	11.1	11.7	9.1	7.5	9.4	7.9	9.8	8.1	9.0
Gene	SW	8.1	12.3	11.9	9.9	8.4	10.8	9.6	10.6	9.3	10.0
Hill 81	SW	7.8	12.0	12.2	9.4	8.4	9.0	8.5	9.5	8.4	9.4
Hoff	HR	8.1	11.3	12.0	9.6	8.7	8.7	8.8	10.3	10.0	9.6
Hyak	Club	7.3	12.3	12.3	8.5	8.2	10.0	7.9		8.5	9.4
Kmor	SW	7.6	12.3	12.3	9.0	7.3	9.2	8.5		8.7	9.4
Lambert	SW	7.9	12.2	12.0	9.1	8.2	8.9	8.4		8.6	9.4
Lewjain	SW	7.5	11.5	13.0	9.3	7.7	9.5	8.6		8.8	9.5
Mac 1	SW	7.8	11.5	11.9	9.1	8.6	9.1	9.1	11.1	9.6	9.6
MacVicar	SW	7.4	11.9	11.2	8.5	8.9	9.6	8.8	10.1	8.6	9.4
Madsen	SW	7.6	12.9	11.7	9.1	8.4	9.5	9.1	9.6	9.3	9.7
Malcolm	SW	7.7	11.7	11.5	8.7	8.5	9.6	8.7	9.6	8.0	9.3
Parma	Triticale	8.1	13.0	12.2	9.6	7.6	8.5	9.0	8.7	7.7	9.5
Rely	Club	7.6	11.4	12.2	8.6	7.2	9.1	8.8		8.7	9.2
Rod	SW	7.3	10.9	12.1	8.7	7.6	8.0	8.5		8.1	8.9
Rohde	Club	8.0	10.7	11.7	8.6	7.1	8.2	8.5	9.3	9.0	9.0
Rulo	Club	8.2	11.6	12.6	8.9	7.9	9.4	8.2		9.1	9.5
Stephens	SW	8.2	12.5	11.8	9.2	8.9	9.3	9.3	9.4	8.9	9.8
W301	SW	8.1	12.4	11.5	9.3	8.1	9.0	9.5	9.6	8.8	9.6
Whitman	Triticale	8.6	10.6	11.2	8.8	8.4	9.3	8.8	9.6	8.6	9.3
Yamhill	SW	7.7	12.1	11.7	9.3	8.7	9.6	8.8		9.0	9.6
Trial average		7.8	11.9	11.8	9.1	8.1	9.3	8.7	9.7	8.7	9.4
PLSD (5%)		0.5	1.1	0.7	0.6	0.9	NS	0.7	1.0	0.7	0.5
PLSD (10%)		0.4	0.9	0.6	0.5	0.6	1.4	0.5	0.8	0.5	0.4
CV		4	5	4	1	6	11	4	6	5	5
<i>Winter barleys</i>											
								Protein percent (12% moisture basis)			
AB-812	6RF									9.5	
Gwen	6RF	8.7	11.4	10.1	10	--	8.2	9.8		9.3	9.6
Hesk	6RF	8.7	10.6	9.5	9.9	--	7.8	8.5	9.9	9.2	9.2
Hoody	6R hooded	10.1	13.4	10.9	1.5	--	11.1	11.0		9.8	9.7
Hundred	6RF	8.7	11.7	9.6	10.1	--	9.0	9.0	10.2	8.1	9.5
Kamiak	6RF	8.2	11.9	11.1	10.3	--	6.7	9.2		8.1	9.3
Kold	6RF	8.5	11.2	9.3	9.9	--	7.6	9.0	10.5	8.6	9.2
ORW6	6RF/M	8.5	11.1	10.1	9.4	--	7.5	9.1	9.5	7.9	9.1
ORW7	6RF/M	8.3	10.7	9.0	9.6	--	7.3	8.4	9.8	7.9	8.7
Scio	6RF	8.3	11.6	9.6	9.8	--	7.0	8.5		8.2	9.0
Showin	6RF	8.6	10.4	9.0	11	--	8.3	9.7	10.5	9.5	9.5
Steptoe	6RF	8.3	10.5	9.9	9.2	--	7.5	8.7	9.8	8.0	8.9
SDM204	6RF			8.4		--				10.1	
SDM208	6RF			10.3		--					
Trial average		8.6	11.3	9.7	10	--	8.0	9.2	10	8.6	9.2
PLSD (5%)		0.4	0.7	NS	0.7	--	1.2	1.0	0.6	0.9	NS
PLSD (10%)		0.4	0.6	1.3	0.5	--	1.0	0.6	0.5	0.7	NS
CV		3	4	10	5	--	9	4	3	6	14

\* does not include Ontario

Table 9.—1995 state-wide variety testing program spring grain Julian heading dates and lodging across five sites in Oregon.

Variety/ line	Market class	Corvallis	Klamath	Madras	Ontario	Pendleton	5-site average	Madras Medford Ontario		
								Lodging percent	Lodging percent	Lodging score*
<i>Spring wheats and triticales</i>										
Alpowa	SW	151	202	177	153	150	167	70	1.7	
Anza	HR				153				1.0	
Calorwa	Club	146	194	176	153	147	163	95	2.0	
Centennial	SW	149	194	176	151	147	163	93	1.0	
Dirkwin	SW	153	199	179	155	147	167	58	1.0	
Fieldwin	SW									
ID377S	HW	150	192	177	153	150	164	92	1.0	
ID448	SW	155	198	181	155	150	168	57	1.0	
ID471	SW	150	194	175	152	147	163	93	1.3	
Juan	Triticale	155	199	177	154	150	167	33	1.0	
Klasic	HW	147	189	168	150	148	160	100	1.0	
Owens	SW	149	192	179	152	149	164	93	1.3	
Penawawa	SW	150	196	177	154	150	165	65	1.0	
Treasure	SW	152	196	180	155	151	167	63	1.0	
Trical 2700	Triticale					149				
Trical Victoria	Triticale	150	200	175	153	149	166	73	1.0	
Westbred Vanna	SW	197	180	154				62	1.0	
Westbred 881	Durum				148					
Westbred 906R	HR			172				37		
Westbred 926R	HR	148	191	173	150	146	161	30	1.0	
Westbred 936R	HR		191	174	151			42	1.0	
Wakanz	SW	153	203	178		149		65		
Wawawai	SW	150	193	175	153	151	164	98	2.3	
Yecora Rojo	HR	145	190	169	150	148	160	64	1.0	
Yolo	HR				153				1.0	
Trial average		151	195	176	153	149	164	69	1.2	
PLSD (5%)		2	3	3	2	--	--	NS	0.7	
PLSD (10%)		1	2	2	2	--	--	NS	0.6	
CV		1	2	1	1	--	--	53	35	
<i>Spring barleys</i>										
78Ab10274	2RF/M	149	197	172	153	141	162	67	100	6.0
82Ab23222 (Payette)	6RF	150	200	176	154	135	163	92	38	1.3
BSR 41	2RF/M	141	188		146	142				6.0
BSR 45	2RF/M	144			147	140				2.3
Baronesse	2RF	151	194	173	152	140	162	75	15	3.0
Colter	6RF	144	189	168	150	141	158	57	80	1.0
Columbia	6RF		199	177	154			80		1.7
Crest	2RM	151	198	171	153	140	163	85	100	5.7
Crystal	2RM	151			153				60	3.7
Gus	6RF		192							
Gustoe	6RF		195					0		
Harrington	2RM			153						3.7
Maranna	6RF	151	198	171	154	140	163	80	50	1.0
Russell	6RM	144	191	164	148	141	158	60	0	1.0
Stander	6RM		194							
Steptoe	6RF	148	189	171	151	138	160	73	48	1.3
WA 11045-87	6R awnless	159								
WPB-BZ489-74	6R hulless	153	201	176	153	144	165	95	50	3.0
WPB-Sissy	6RF		194	176	153			57		1.7
Trial average		149	194	172	151	140	161	76	45	2.7
PLSD (5%)		1	2	3	2	--	--	NS	NS	1.6
PLSD (10%)		1	2	3	1	--	--	25.0	NS	1.3
CV		1	1	1	1	--	--	24	88	35

Grain did not lodge at other locations.

\*Lodging score: 1 = none; 2 = 1-20%; 3 = 21-40%; 4 = 41-60%; 5 = 61-80%; 6 = &gt;81%

Table 10.—1995 state-wide variety testing program spring grain heights across nine sites in Oregon.

Variety/ line	Market class	Corvallis	Klamath	LaGrande	Madras	Medford	Morrow	North Valley	Ontario	Pendleton	8-site average
<i>Spring wheats and triticales</i>											
								Height (inches)			
Alpowa	SW	36	31	35	35	34		23	34	36	33
Anza	HR							32			
Calorwa	Club	33	28	32	34	34		18	30	31	30
Centennial	SW	36	25	34	35	35		21	33	34	32
Dirkwin	SW	38	30	37	33	34		22	33	38	33
Fieldwin	SW					30					
ID377S	HW	39	30	36	35	35		24	37	38	34
ID448	SW	37	30	32	34	31		23	34	36	32
ID471	SW	38	27	35	33	36		22	33	31	32
Juan	Triticale	47	36	48	46	44		29	41	44	42
Klasic	HW	29	20	25	29	26		19	25	25	25
Owens	SW	38	30	39	34	38		23	35	38	34
Penawawa	SW	33	27	35	34	34		21	34	35	31
Treasure	SW	35	29	33	35	30		23	33	37	32
Trical 2700	Triticale										61
Trical Victoria	Triticale	40	33	38	41	38		28	36	39	37
Westbred Vanna	SW		29		33			34			
Westbred 881	Durum			31							35
Westbred 906R	HR				31						
Westbred 926R	HR	35	28	34	32	32		22	33	35	31
Westbred 936R	HR		25		32				33		
Wakanz	SW	36	31	35	33	30		23		36	
Wawawai	SW	42	31	43	38	40		28	38	41	38
Yecora Rojo	HR	27	19	27	28	27		17	24	29	25
Yolo	HR								32		
Trial average		36	28	35	34	34		23	33	37	33
PLSD (5%)		4	3	3	3	--		2	2	--	--
PLSD (10%)		3	2	3	3	--		2	2	--	--
CV		6	2	5	6	--		6	3	--	--
<i>Spring barleys</i>											
78Ab10274	2RF/M	35	30	35	35	35	27	22	31	37	32
82Ab23222 (Payette)	6RF	30	26	32	40	32	23	18	29	28	28
BSR 41	2RF/M	37	28				37		29		35
BSR 45	2RF/M	38					33		32		36
Baronesse	2RF	34	27	31	35	30	26	20	29	31	29
Colter	6RF	38	25	30	43	39	29	21	33	38	32
Columbia	6RF		25	29	36				29		
Crest	2RM	34	27	32	31			27	20	29	36
Crystal	2RM	35				34			32		29
Gus	6RF		22								
Gustoe	6RF			21			22				
Harrington	2RM								31		
Maranna	6RF	27	26	31	38		22	17	25	27	27
Russell	6RM	38	30	34	39	31	31	23	34	32	33
Stander	6RM		31								
Steptoe	6RF	40	29	33	37	32	31	20	32	34	32
WA 11045-87	6R awnless		34								
WPB-BZ489-74	6R hulless	32	27	33	38		26	21	28	35	30
WPB-Sissy	6RF		26		34				28		
Trial average		35	27	32	37	32	28	20	30	34	19
PLSD (5%)		3	2	NS	4	--	--	3	2	--	--
PLSD (10%)		2	2	NS	4	--	--	3	2	--	--
CV		5	1	15	7	--	--	9	4	--	--

Table 11.—1995 state-wide variety testing program spring grain yields across ten sites in Oregon.

Variety/ line	Market class	North										10-site average	Percent of trial average
		Corvallis	Klamath	LaGrande	Madras	Medford	Moro	Morrow	Valley	Ontario	Pendleton		
<i>Spring wheats and triticales</i>													
Alpowa	SW	72	83	62	99	95	50	40	56	113	67	74	1.11
Anza	HR									99			
Calorwa	Club	75	58	56	73	108	49	40	46	105	55	66	1.00
Centennial	SW	77	69	58	85	106	52	38	52	108	54	70	1.05
Dirkwin	SW	68	74	60	79	81	51	40	49	91	52	65	0.99
Fieldwin	SW					78							
ID377S	HW	72	84	63	90	108	52	39	50	110	61	73	1.09
ID448	SW	66	89	47	86	71	59	34	52	108	64	68	1.02
ID471	SW	73	79	59	86	99	60	33	53	111	58	71	1.07
Juan	Triticale	61	76	44	91	89	36	19	46	101	32	59	0.85
Klasic	HW	74	50	49	97	99	49	38	47	108	39	65	0.96
Owens	SW	71	71	56	78	95	53	27	46	98	50	65	0.96
Penawawa	SW	74	77	59	82	96	49	34	50	116	58	69	1.03
Treasure	SW	79	91	57	86	100	51	31	54	111	68	73	1.09
Trical 2700	Triticale										73		
Trical Victoria	Triticale	61	63	50	92	89	49	28	51	86	59	63	0.94
Westbred Vanna	SW		53		86					108			
Westbred 881	Durum			44				29			27		
Westbred 906R	HR				80								
Westbred 926R	HR	62	55	51	79	90	47	38	50	91	52	61	0.93
Westbred 936R	HR		48		99					102			
Wakanz	SW	59	78	53	94	77	57	36	46		68		
Wawawai	SW	70	65	69	72	87	51	38	55	129	65	70	1.05
Yecora Rojo	HR	64	48	52	94	75	52	41	49	101	56	63	0.96
Yolo	HR										111		
Trial average		68	68	55	86	91	51	35	50	105	56	67	1.00
PLSD (5%)		9	17	NS	14	16	11	11	NS	12	12	7	0.10
PLSD (10%)		8	14	NS	12	13	9	9	NS	10	10	6	0.08
CV		8	10	24	10	13	13	19	10	7	13	11	11
<i>Spring barleys</i>													
78Ab10274	2RF/M	3942	4937	3547	4725	2389	3606	3016	2835	5187	5158	3934	1.03
82Ab23222 (Payette)	6RF	3121	4006	4439	4473	4334	3065	2315	2099	5298	3463	3661	0.94
BSR 41	2RF/M	3726	4295				3667	2480		6047	4444		
BSR 45	2RF/M	3736					2911	2877		5207	4706		
Baronesse	2RF	4382	5151	4274	4002	4712	4198	2984	2676	5608	5079	4307	1.12
Colter	6RF	4153	4609	3730	4733	2869	3758	2542	2253	6250	5262	4016	1.03
Columbia	6RF		4779	3336	4513					5943			
Crest	2RM	3883	4241	3869	4697	4098	3631	2563	2469	5290	4593	3933	1.02
Crystal	2RM	3421					3632			5165			
Gus	6RF		4497										
Gustoe	6RF			4225			5563				5130		
Harrington	2RM										3654	3762	0.96
Maranna	6RF	3478	4735	2992	4524	4850	3580	2241	2137	5425	3707	3600	0.95
Russell	6RM	3408	3809	3670	3685	4612	3204	2770	2566	4572			
Stander	6RM		4181										
Steptoe	6RF	4412	4711	3468	5661	3011	3778	2682	2243	5752	5061	4078	1.04
WA 11045-87	6R awnless	3085											
WPB-BZ489-74	6R hulless	3586	3480	3896	3710	4583	2989	2203	2288	5380	3889	3600	0.93
WPB-Sissy	6RF		4606	3766						4674			
Trial average		3718	4406	3722	4409	4116	3490	2607	2440	5457	4456	3877	1.00
PLSD (5%)		423	583	NS	1016	1543	503	430	469	NS	710	463	0.11
PLSD (10%)		350	485	NS	841	1283	416	355	387	900	587	386	0.09
CV		7	8	20	14	26	8	10	11	12	9	13	13

Table 12.—1993-95 spring grain yields across Oregon locations expressed as a percent of trial average.

Variety/line	class	Market		North							
		Corvallis	Klamath	LaGrande	Madras	Moro	Morrow	Valley	Ontario	Pendleton	Average
<i>Spring wheats and triticales</i>										1993-95 average yield expressed as a percent of trial average	
Calorwa	Club	0.94	0.90	1.05	0.95	0.94	0.95	0.83	0.90	0.88	0.93
Centennial	SW	1.05	1.15	1.03	1.08	1.08	0.92	0.99	1.14	0.90	1.04
Dirkwin	SW	0.95	0.93	0.98	0.99	0.98	0.79	0.61	0.93	0.73	0.88
Juan	Triticale	1.11	1.07	0.90	0.83	0.97	0.77	1.25	1.04	0.85	0.98
Klasic	HW	0.89	0.94	1.08	1.21	0.84	1.19	0.83	0.86	0.81	0.96
Owens	SW	1.05	1.08	1.01	0.98	0.94	0.81	0.81	1.05	0.92	0.96
Penawawa	SW	0.93	1.03	0.98	1.08	0.96	0.78	0.76	1.05	0.83	0.93
Treasure	SW	1.15	1.16	1.00	0.99	1.05	1.03	1.00	1.01	1.04	1.05
Trical Victoria	Triticale	1.10	1.04	0.91	0.93	1.14	1.17	1.59	1.16	1.20	1.14
Westbred 926R	HR	0.98	0.89	1.00	0.95	0.99	1.27	0.97	0.87	1.18	1.01
PLSD (5%)											0.12
PLSD (10%)											0.10
1993-95 average yield (bu/a)		50	78	53	76	45	33	33	115	49	59
<i>Spring barleys</i>											
Baronesse	2RF	1.23	1.05	1.06	0.97	1.09	1.17	--	1.03	--	1.09
Colter	6RF	0.98	1.02	0.98	1.03	1.01	0.92	--	1.07	--	1.00
Crest	2RM	1.00	0.93	1.06	0.93	0.97	0.98	--	0.96	--	0.98
Maranna	6RF	0.94	1.13	0.92	1.10	1.04	0.88	--	1.02	--	1.00
Russell	6RM	0.90	0.94	1.02	0.90	0.93	0.88	--	0.85	--	0.92
Steptoe	6RF	1.09	0.98	0.93	1.07	1.08	1.24	--	1.07	--	1.06
PLSD (5%)											0.08
PLSD (10%)											0.07
1993-95 average yield (lb/a)		3774	5267	4415	5206	3535	2865	--	6916	--	3997

Table 13.—1994-95 spring grain yields expressed as a percent of trial average yield across Oregon locations.

Variety/line		North										
		Corvallis	Klamath	LaGrande	Madras	Medford	Moro	Morrow Valley	Ontario	Pendleton	Average	
<i>Spring wheats and triticales</i>		1994-95 average yield expressed as a percent of trial average										
Alpowa	SW	1.12	1.05	1.17	1.08	1.07	1.03	1.10	1.06	1.06	1.14	1.09
Calorwa	Club	1.05	0.91	1.10	0.91	1.09	1.09	1.00	0.96	0.91	0.99	1.00
Centennial	SW	1.11	1.11	1.01	1.07	1.17	1.09	0.93	1.18	1.10	0.94	1.07
Dirkwin	SW	1.04	0.97	1.00	0.98	0.93	0.96	0.64	0.71	0.90	0.68	0.88
ID 377S	HW	1.15	1.12	1.05	1.09	1.13	1.06	1.41	0.80	1.00	1.12	1.09
Juan	Triticale	0.98	1.07	0.78	0.90	0.96	0.86	0.67	0.97	1.02	0.77	0.90
Klasic	HW	0.88	0.92	1.04	1.14	1.04	1.00	1.32	0.87	1.02	0.88	1.01
Owens	SW	1.06	1.04	1.01	0.96	1.03	1.01	0.67	0.92	1.02	0.86	0.96
Penawawa	SW	1.02	1.09	0.98	1.02	1.00	0.99	0.66	0.89	1.13	0.90	0.97
Treasure	SW	1.20	1.19	1.02	1.02	1.11	1.04	0.98	1.05	1.01	1.05	1.07
Trical Victoria	Triticale	1.07	1.03	0.86	1.03	0.96	1.02	1.16	1.28	1.05	1.13	1.06
Wakanz	SW	1.21	0.89	0.98	0.93	1.00	1.05	0.97	0.73	0.96	1.27	1.00
Wawai	SW	1.03	0.95	0.96	1.01	0.92	1.08	0.81	0.46	0.49	1.34	0.91
Westbred 926R	HR	0.91	0.94	1.10	0.87	0.89	1.05	1.34	0.74	1.08	1.34	1.03
Yecora Rojo	HR	0.85	0.86	1.13	1.04	0.86	1.12	1.40	0.91	0.88	0.95	1.00
PLSD (5%)											0.12	
PLSD (10%)											0.10	
CV											20	
1994-95 average yield (bu/a)		54	82	48	81	90	45	25	33	115	49	62
<i>Spring barleys</i>												
Baronesse	2RF	1.24	1.02	1.08	0.95	1.17	1.10	1.26	--	1.00	1.12	1.11
Colter	6RF	1.03	0.99	1.00	1.02	0.91	1.05	0.86	--	1.09	1.08	1.00
Crest	2RM	0.97	1.01	1.08	0.99	0.94	0.98	1.03	--	0.90	0.99	0.99
Maranna	6RF	0.96	1.16	0.88	1.06	1.14	1.03	0.79	--	1.04	0.94	1.00
Russell	6RM	0.90	0.97	0.98	0.89	1.06	0.93	0.88	--	0.93	0.87	0.93
Steptoe	6RF	1.15	0.90	0.90	1.11	0.87	1.09	1.27	--	1.05	1.06	1.05
PLSD (5%)											0.09	
PLSD (10%)											0.08	
1994-95 average (lb/a)		3434	5646	3715	4684	4392	3250	2365	--	7057	4700	4360

Table 14.—1995 state-wide variety testing program spring grain test weights across ten sites in Oregon.

Variety/ line	Market class	Corvallis	Klamath	LaGrande	Madras	Medford	Moro	Morrow	North Valley	Ontario	Pendleton	10-site average
<i>Spring wheats and triticales</i>												
Alpowa	SW	62.3	62.8	59.0	61.5	62.4	62.5	60.0	63.5	64.1	63.1	62.1
Anza	HR									63.3		
Calorwa	Club	60.5	59.6	60.1	56.4	61.8	60.8	59.0	63.0	61.4	62.3	60.5
Centennial	SW	60.6	61.9	57.6	58.0	62.9	62.3	59.7	62.8	64.0	62.3	61.2
Dirkwin	SW	58.1	58.5	54.8	56.4	59.4	58.4	57.5	61.5	58.6	57.8	58.1
Fieldwin	SW					61.2						
ID377S	HW	63.3	62.0	58.8	58.4	61.9	63.0	60.4	63.9	64.1	63.1	61.9
ID448	SW	58.5	61.6	54.8	57.5	60.1	62.3	58.1	62.4	60.9	60.9	59.7
ID471	SW	58.9	62.3	58.1	59.7	62.5	62.2	58.6	62.8	63.8	62.3	61.1
Juan	Triticale	53.3	53.4	43.1	53.0	54.3	52.0	43.4	47.9	54.7	51.7	50.7
Klasic	HW	64.1	62.0	61.9	59.6	62.5	62.3	58.3	62.4	63.6	62.4	61.9
Owens	SW	60.9	61.8	57.5	58.3	61.5	60.9	53.4	62.3	63.2	61.1	60.1
Penawawa	SW	61.3	61.7	58.1	59.7	61.4	61.4	57.4	62.9	63.2	61.9	60.9
Treasure	SW	61.0	61.8	57.2	59.8	61.7	62.0	54.9	63.1	62.2	61.2	60.5
Trical 2700	Triticale											53.7
Trical Victoria	Triticale	55.0	52.4	48.4	52.4	53.9	55.1	47.5	53.1	52.9	53.6	52.4
Westbred Vanna	SW		58.8		58.8							
Westbred 881	Durum			56.5				59.6				59.9
Westbred 906R	HR			0.0	58.8							
Westbred 926R	HR	63.0	61.2	60.0	59.0	61.9	62.8	60.9	63.8	64.1	61.3	61.8
Westbred 936R	HR		58.9		58.8					64.3		
Wakanz	SW	58.7	61.5	57.7	60.4	57.7	61.8	57.6	61.4		61.8	
Wawaiwai	SW	62.5	62.1	60.6	58.9	61.4	62.8	60.1	63.8	64.4	62.4	61.9
Yecora Rojo	HR	64.4	61.8	61.0	60.3	61.7	62.9	61.1	64.2	63.5	63.1	62.4
Yolo	HR									63.6		
Trial average		60.4	60.4	57.0	58.3	60.6	61.0	57.2	61.6	62.1	60.4	59.8
PLSD (5%)		1.6	1.0	3.0	2.2	0.8	1.3	3.9	1.1	1.0	1.1	--
PLSD (10%)		1.4	0.9	2.5	1.8	0.7	1.1	3.2	0.9	0.9	0.9	--
CV		2	1	3	2	1	1	4	1	1	1	--
<i>Spring barleys</i>												
Test Weight (lb/bu)												
78Ab10274	2RF/M	51.8	54.9	52.0	52.8	52.9	54.7	53.4	50.9	54.1	55.3	53.3
82Ab23222 (Payette)	6RF	47.7	51.0	52.0	48.7	55.0	52.7	48.2	53.3	53.4	53.5	51.5
BSR 41	2RF/M	53.3	52.9				53.8	52.5		52.9	54.3	
BSR 45	2RF/M	52.1					53.8	52.3		53.9	55.4	
Baronesse	2RF	53.6	54.0	52.8	51.0	53.5	54.3	52.7	51.7	55.0	55.1	53.4
Colter	6RF	50.8	51.0	49.3	47.9	52.8	51.5	44.7	51.5	52.3	53.7	50.5
Columbia	6RF		46.8	48.3	46.8					51.2		
Crest	2RM	53.2	54.4	51.6	51.3	52.7	54.5	52.9	52.1	51.5	55.3	53.0
Crystal	2RM		51.8			54.2				54.3		
Gus	6RF		48.9									
Gustoe	6RF			49.6			52.7					
Harrington	2RM									54.1		
Maranna	6RF	46.8	51.2	50.6	49.7	54.2	51.6	47.9	50.4	52.2	53.3	50.8
Russell	6RM	51.3	51.8	51.8	49.8	53.6	53.6	51.6	52.3	55.5	53.8	52.5
Stander	6RM		51.9									
Steptoe	6RF	48.6	51.1	49.3	47.8	51.2	50.3	44.6	49.1	52.0	52.9	49.7
WA 11045-87	6R awnless	54.2										
WPB-BZ489-74	6R hulless	62.8	60.6	59.1	54.5	60.8	61.1	56.9	61.8	63.4	61.9	60.3
WPB-Sissy	6RF		52.9		49.9				54.2			
Trial average		52.2	52.3	51.7	50.0	53.7	53.8	50.7	52.6	53.9	54.9	52.8
PLSD (5%)		0.9	1.3	3.5	2.4	2.3	0.8	4.2	2.5	0.9	0.6	--
PLSD (10%)		0.8	1.1	2.9	2.0	1.9	0.7	3.4	2.0	0.8	0.5	--
CV		1	1	4	3	3	1	5	3	1	1	--

Table 15.—1995 state-wide variety testing program spring grain proteins across ten sites in Oregon.

Variety/ line	Market class	Corvallis	Klamath	LaGrande	Madras	Medford	Moro	Morrow	North Valley	Ontario	Pendleton	10-site average
<i>Spring wheats and triticales</i>												
									Protein percent (12% moisture basis)			
Alpowa	SW	6.8	11.3	14.0	11.3	11.5	10.9	10.2	9.4	10.5	11.3	10.7
Anza	HR											10.5
Calorwa	Club	7.5	12.5	13.5	12.7	11.4	11.7	9.9	11.4	10.0	11.9	11.2
Centennial	SW	6.8	11.9	13.0	12.3	11.4	10.6	10.0	9.6	10.2	11.9	10.8
Dirkwin	SW	8.0	11.3	12.8	12.1	12.0	11.2	10.3	10.5	10.2	12.0	11.0
Fieldwin	SW	0.0				12.4						
ID377S	HW	7.9	12.6	13.3	13.4		12.0	10.4	10.9	11.3	13.2	10.5
ID448	SW	7.9	10.6	13.7	12.4	12.7	10.5	10.0	9.6	9.5	11.1	10.8
ID471	SW	7.0	11.4	12.1	11.9	11.1	10.7	10.0	9.3	9.9	11.5	10.5
Juan	Triticale	8.5	10.5	11.6	11.5	10.9	11.4	12.0	10.3	10.4	12.0	10.9
Klasic	HW	7.9	13.8	13.9	13.4	12.4	13.0	12.4	11.5	12.6	14.5	12.5
Owens	SW	7.1	11.5	13.4	12.5	11.6	11.2	13.6	9.8	10.5	11.6	11.3
Penawawa	SW	7.0	11.8	12.8	12.2	11.7	10.7	11.4	9.4	10.8	11.9	11.0
Treasure	SW	7.0	11.1	12.2	11.5	11.5	10.9	14.8	9.9	9.8	11.4	11.0
Trical 2700	Triticale											11.1
Trical Victoria	Triticale	8.2	10.9	13.3	12.1	11.1	11.5	11.8	10.5	10.3	11.6	11.1
Westbred Vanna	SW		11.6		12.4					10.1	0.0	
Westbred 881	Durum			14.2				12.9				14.6
Westbred 906R	HR				13.5							
Westbred 926R	HR	8.6	13.7	14.4	13.9	12.9	13.3	11.3	11.3	13.4	14.2	12.7
Westbred 936R	HR		14.2		14.1					12.4		
Wakanz	SW	8.4	11.3	12.9	11.9	12.2	11.4	11.5	10.5		12.0	
Wawawai	SW	7.8	12.0	11.8	12.5	11.8	11.3	10.9	10.2	10.0	12.2	11.0
Yecora Rojo	HR	8.5	13.9	14.5	13.3	13.1	12.4	10.8	11.5	13.3	14.5	12.6
Yolo	HR									10.3		
Trial average		7.8	12.1	13.2	12.5	11.3	11.5	11.4	10.4	10.8	12.4	11.2
PLSD (5%)		0.6	0.6	1.5	1.0	0.6	1.0	2.5	0.7	0.6	0.5	--
PLSD (10%)		0.5	0.4	3.6	0.8	0.5	0.8	2.0	0.6	0.5	0.4	--
CV		4	1	7	5	3	5	13	4	4	2	--
<i>Spring barleys</i>												
									Protein percent (12% moisture basis)			
78Ab10274	2RF/M	8.2	10.0	12.7	12.7	11.6	11.8	9.1	8.3	11.1	11.2	10.7
82Ab23222 (Payette)	6RF	8.9	10.5	12.6	12.8	11.1	11.1	11.1	9.8	11.4	11.4	11.1
BSR 41	2RF/M	8.3	10.7				10.4	8.6				
BSR 45	2RF/M	9.0					12.0	12.2				
Baronesse	2RF	7.6	10.7	12.5	13.0	11.2	11.0	9.1	8.3	11.3	11.3	10.6
Colter	6RF	8.0	10.4	11.6	11.5	9.7	9.7	9.9	8.3	9.8	9.4	9.8
Columbia	6RF		10.4	12.6	12.8					11.2		
Crest	2RM	8.0	11.4	13.3	13.0	11.9	11.6	8.8	8.6	10.9	11.5	10.9
Crystal	2RM	7.9				11.6				11.4		
Gus	6RF		11.0									
Gustoe	6RF		10.1			10.2						
Harrington	2RM									11.1		
Maranna	6RF	8.3	10.2	12.9	12.9	10.8	11.5	9.2	9.8	11.6	12.0	10.9
Russell	6RM	8.6	10.1	11.3	11.7	10.3	10.8	8.1	8.7	11.0	10.3	10.1
Stander	6RM		11.0									
Steptoe	6RF	8.4	9.8	12.3	11.9	10.4	10.3	9.5	9.3	10.3	9.8	10.2
WA 11045-87	6R awnless	9.1										
WPB-BZ489-74	6R hulless	8.4	13.7	15.1	15.5	12.8	13.4	12.6	9.2	13.4	14.6	12.9
WPB-Sissy	6RF		10.2		14.0					11.8		
Trial average		8.4	10.7	12.7	12.8	11.0	11.2	9.8	8.9	11.4	11.4	10.8
PLSD (5%)		0.3	0.9	1.2	1.0	0.6	0.8	2.6	0.7	0.6	0.5	--
PLSD (10%)		0.3	0.8	1.0	0.8	0.5	0.6	2.1	0.6	0.5	0.5	--
CV		2	1	5	4	4	4	15	5	3	3	--

Table 16.—1995 grower drill strip winter wheat variety tests across Oregon and southeast Washington.

Variety	Rudden-															Average over 11 sites		
	Johns Athena	Barnes Salem	klau Amity	Klages Joseph	Hales Midway	Glasers Tangent	Miller Dufur	Newton Pendl	Nichols* Dayton, WA	Macnab Moro	Rietmann Ione	Weimer Clem	Erickson Condon	Brown Wasco	Reser Condon	Peck Heppner		
Yield - bu/a																		
Celia			92															
Gene	109	114	92	96	82	73	64	54	58	36	54	40	34	33	31	77		
MacVicar	123	119	119	99	91	91	66	65	66	58	61	49	42	41	36	25	92	
Mac1	109			89			71											
Madsen		113	111	118	90	95	84	72	62	49	64	48	41	52		29	84	
Rod	136	124	115	88	101	92	92	74	92	56	52	52	46	55	31	55	102	
Rohde	119	116	113	95	98	84	80	73	74		38	55	46	48	38	30	93	
Stephens	133	113	121	94	95	82	65	68	65	52	65	49	45		57	47	95	
W301				108	100			71			46	52		26		32		
Yamhill					98													
Mixture		108				96				59					36			
Average	124	115	112	99	95	89	80	70	69	56	52	51	43	43	38	35	90	
Test weight (lb/bu)																		
Celia		57.0																
Gene		56.8	55.4	57.4	57.5	57.4	55.8	57		58.0			60.5	54.3	57.0			
MacVicar		59.0	55.0	60.9	60.1	58.2	58.4	60.5			60.2			60.5	58.5	58.1		
Mac1			61.6				59.1											
Madsen		60.6	57.8	60.4	58.2	60.4	59.4	59		59.7			61.5		59.2			
Rod	62.8	57.1	55.3	58.0	58.5		57.4	59		57.0			59.1	56.1	57.6			
Rohde	59.9	60.9	58.4	60.6	58.1	60.5	59.9	63		59.7			62.2	58.5	60.6			
Stephens		59.6	57.3	60.4	60.3	58.3	57.6	60					60.7	56.4	58.9			
W301			57.9	60.7			58.5				60.0			61.7		59.9		
Yamhill					59.1													
Mixture						58.0									55.5			
Average	61.4	58.7	56.7	60.0	58.8	58.8	58.3	59.8		50.7			60.9	56.6	58.8			
Protein percent																		
Celia		9.4																
Gene		9.6	11.6	10.6	10.0	9.41	9.9						11.68	9.3	8.1			
MacVicar		9.5	11.0	10.2	8.3	9.00	9.2						11.84	8.5	8.3			
Mac1			11.1				9.7											
Madsen		9.6	11.4	11.3	8.8	9.16	9.6						12.38		8.7			
Rod	9.8	9.2	12.6	9.3	8.5		8.5						11.39	8.3	9.1			
Rohde	9.9	9.8	12.4	10.0	10.1	7.75	8.8						11.36	7.2	8.8			
Stephens		8.8	11.3	10.5	8.5	9.07	9.5						11.78	9.4	9.2			
W301			11.3	10.2			9.3						11.48		8.9			
Yamhill					10.7										8.5			
Mixture														11.7	8.5	8.7		
Average	9.9	9.4	11.6	10.4	9.3	8.9	9.3											

Due to field or harvest problems, some yield data were lost.

We thank Anderson Seeds of Ione, Pendleton Grain Growers, Corvallis Seed and Feed, and Madsen Grain for supplying seed for these trials.

OSU Extension agents Aldrich-Markham, Gingrich, Macnab, Stoltz, Cook and Nesse were facilitators for these trials.

These trials are coordinated by Russ Karow, OSU Extension Agronomist, and supported by the STEEP II on-farm testing program.